

We claim:

1. In a valve pin insert of a type having a body for being inserted into a valve plate, the improvement wherein the body has a lower shank at one end of the body and an upper shank adjacent to the lower shank, the lower shank being of a first diameter and the upper shank being of a second diameter, the first diameter being less than the second diameter and wherein between
5 the lower shank and the upper shank of the body an undercut shoulder forms a recess opening in the direction toward the lower shank, the recess forming a tooth that shears material of the valve plate as the pin is inserted into a hole in the valve plate.
2. The pin of claim 1, wherein the diameter of the lower shank is less than the diameter of the hole in the valve plate.
3. The pin of claim 1 wherein the pin is made of PEEK.
4. The pin of claim 1 wherein the valve plate is made of PTFE.
5. The pin of claim 1 wherein the undercut shoulder is molded into the pin.
6. The pin of claim 1 wherein the undercut shoulder is machined into the pin.
7. The pin of claim 1 wherein the undercut shoulder extends to a depth beneath the surface of the lower shank.

8. The pin of claim 1, further comprising a stud extending axially outwardly from the body.